

Running head: INTERGENERATIONAL SIMILARITY OF DEPRESSIVE SYMPTOMS

The role of depressogenic personality and attachment in the intergenerational similarity of depressive symptoms: A study with early adolescents and their mothers

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Abstract

Parental depression has been identified as a risk factor for psychopathology in children, and for child depression in particular. Increasingly, research is addressing the underlying psychological processes that may explain the intergenerational similarity of depressive symptoms. In the present study, we aim to investigate the role of two theoretically relevant vulnerability factors in this intergenerational similarity, that is, (a) dimensions of depressogenic personality (i.e., sociotropy and autonomy) and (b) dimensions of attachment (i.e., anxiety and avoidance). Results in a sample of early adolescents and their mothers show significant intergenerational congruence of both sets of vulnerabilities. Moreover, the intergenerational similarity of both vulnerability factors was found to account for the association between mothers' and children's depressive symptoms. Within each generation there were also meaningful and specific associations between dimensions of depressogenic personality and dimensions of attachment, with sociotropy being primarily related to anxiety and with autonomy being primarily related to avoidance.

Keywords: depressive symptoms, intergenerational similarity, depressogenic personality, attachment

In research on the etiology of depression, parental depression has been forwarded as a risk factor for internalizing problems in children, and for depressive symptoms in particular (Goodman & Gotlib, 1999). However, relatively less is known about the underlying psychological processes that may account for the intergenerational congruence of depressive symptoms (Hammen, Shih, & Brennan, 2004). Extant research on the processes behind the intergenerational transmission of depressive symptoms rarely starts from a strong theoretical framework and, therefore, is often rather descriptive in nature. The current study aims to overcome this limitation by relying on two well-established theories about the role of personality and interpersonal functioning in the development of depression, that is, Beck's (1983) theory on depressogenic personality and attachment theory (Bowlby, 1980, 1988). Specifically, we aimed to test an integrated conceptual model in which both Beck's dimensions of depressogenic personality (i.e., sociotropy and autonomy) and two central dimensions of attachment (i.e., anxiety and avoidance) are considered as possible mediating variables in the intergenerational similarity of depressive symptoms. The conceptual model guiding this research is depicted in Figure 1.

The Intergenerational Similarity of Depressive Symptoms and Depressogenic Personality

Parental depression has often been identified as a risk factor for depression in children and adolescents (e.g., Beardslee, Versage, & Gladstone, 1998). However, evidence for associations between parents' and children's depressive symptoms is not unequivocal, particularly in non-clinical samples (e.g., Besser and Priel, 2005). A meta-analysis by Connell and Goodman (2002) shows that most of the population effect sizes are small in magnitude (weighted mean $r = .18$) and are moderated by variables such as gender and age. With the current research, we aim to further examine the strength of association between mothers' and early adolescents' depressive symptoms. On the basis of previous research, we expect this association, if any, to be small to moderate in size.

More importantly, we address the possibility that the small direct intergenerational similarity of depressive symptoms is a symptom of a deeper, more fundamental, and possibly stronger intergenerational similarity of personality-related and interpersonal features. First, we consider the

possible mediating role of depressogenic personality. A number of theories of depression have identified qualitatively different dimensions of personality vulnerability to depression (Blatt & Maroudas, 1992).

Beck (1983, 1987), for instance, revised his depression theory to include the role of two major personality dimensions, termed sociotropy and autonomy (see also Bieling, Beck, & Brown, 2000). The sociotropic individual is a socially dependent person with high needs for intimacy and affiliation. He or she is particularly sensitive to and afraid of rejection by others because he or she is dependent on others for safety and gratification. In contrast, autonomy is characteristic of individuals who tend to be assertive and strongly focused on the achievement of personal goals, to such an extent that they are highly sensitive to being subjected to demands or restrictions. The autonomous individual derives gratification from directing his or her own activities and attaining self-imposed goals.

According to Beck (1983), sociotropy and autonomy are specific and differential factors in the onset and course of major depression. The cognitive distortions of the sociotropic type of depression center around the irreversibility of loss and a sense of social undesirability. **The following characteristics are typical for this sort of depression: seeking help, support and reassurance, a feeling of loneliness, concern about personal and social attributes, and a preoccupation with, and anxiety about, the loss of gratification.** The onset of a sociotropic depression is often precipitated by the loss of a significant figure through death or rejection (Sibley & Overall, 2008). Individuals with an autonomous type of depression present themselves as relatively isolated from other people and this isolation would be a defense mechanism to maintain independence. **They have a high degree of self-criticism, a fairly unremitted depressed mood, and a tendency to reject help and to blame themselves for failure.** Cognitive distortions center around themes of defeat and failure because of personal incompetence. As a consequence, autonomous depression takes place when one realizes that a specific goal cannot be achieved (Sibley & Overall, 2008).

Concepts similar to sociotropy and autonomy have been coined from other theoretical positions, including interpersonal theories of depression and psychoanalytic ego psychology (Blatt & Maroudas,

1992). Blatt (1974), for example, formulates two primary personality configurations as vulnerabilities to psychopathology, that is, dependency and self-criticism/perfectionism. Similar to sociotropy, dependency is characterized by exaggerated and distorted attempts to establish and maintain gratifying interpersonal relations. Similar to autonomy, self-criticism/perfectionism is characterized by a relentless involvement in personal goal attainment. Efforts are concentrated on achievement in order to gain approval and to compensate for feelings of failure and inadequacy.

A large body of research supports Beck's and Blatt's theories of personality vulnerability to depressive symptoms (e.g., Beck, Robbins, Taylor, & Baker, 2001; Luyten et al., 2007). For instance, Beck, Taylor, and Robbins (2003) found significant associations between both sociotropy, autonomy, and depressive symptoms in freshman college students beginning their first semester. The association between sociotropy and depressive symptoms was specifically mediated by symptoms of homesickness (which represent a preoccupation with the family and a focus on interpersonal relationships), whereas the relationship between autonomy and depressive symptoms was specifically mediated by a lack of satisfaction with one's grades obtained (which represents a focus on achievement of goals). Similar findings were obtained in studies with a younger population of early adolescents (ages 10-14) (e.g., Kuperminc, Blatt, & Leadbeater, 1997; Little & Garber, 2000). In this study, we expect to find positive associations between sociotropy, autonomy and depressive symptoms, both in mothers and their early adolescent children.

As is the case with depressive symptoms, depressogenic personality dimensions show similarity across generations. A number of studies, for instance, examined the intergenerational similarity of Blatt's concepts of dependency and self-criticism/perfectionism. For example, Besser and Priel (2005) found moderate but significant positive associations between scores for dependency of grandmothers and mothers, grandmothers and granddaughters, and mothers and granddaughters. A larger number of studies addressed the intergenerational congruence of self-criticism/perfectionism and found that parental self-criticism/perfectionism predicts self-criticism and perfectionism in adolescents

(e.g., Besser & Priel, 2005; Soenens et al., 2005) and younger adolescent children (ages 10-16) (e.g., Yu & Gamble, 2009). However, to the best of our knowledge, no study to date has examined the intergenerational similarity of Beck's dimensions of sociotropy and autonomy. In addition, no study investigated whether this similarity of depressogenic personality accounts for the intergenerational similarity of depressive symptoms. In the current study, it is expected that the direct association between mothers' and children's depressive symptoms will decrease or become non-significant when taking into account associations between (a) mothers' and children's sociotropy and autonomy and (b) associations between sociotropy and autonomy and depressive symptoms within each generation. We also consider another, yet conceptually related, mediator of intergenerational transmission of depressive symptoms, that is, (dimensions of) attachment.

Dimensions of Attachment and Depression

According to attachment theory, each individual develops an attachment style on the basis of interpersonal experiences with caregivers (Bowlby, 1980, 1988; Fraley & Shaver, 2000). For a long time, attachment has been studied from a categorical perspective, thereby distinguishing between qualitatively different styles of attachment (e.g., secure, anxious, and avoidant attachment) (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Bartholomew & Horowitz, 1991). More recent research supports a distinction between two continuous dimensions as the best way to model attachment (Brennan, Clark, & Shaver, 1998; Fraley & Spieker, 2003): (a) attachment anxiety, which involves preoccupation with social support, jealousy, fear and vigilance concerning abandonment and rejection, and (b) attachment avoidance, which involves avoidance of intimacy, discomfort with closeness, and excessive self-reliance (Brennan, Clark, & Shaver, 1998). By crossing these two dimensions, four attachment orientations can be distinguished; secure attachment (low on both dimensions) and three insecure attachment dimensions: preoccupied attachment (high on anxiety and low on avoidance), dismissing-avoidant attachment (low on anxiety and high on avoidance), and fearful-avoidant attachment (high on both dimensions).

Bowlby (1973, 1980) postulated that the loss of secure attachment during infancy, childhood, or adolescence contributes to the development of depression. This loss can be due to the death of a primary attachment figure or to repeated failure to form a secure relationship with a caregiver. This leads to the formation of pessimistic, hopeless representations of self and the broader interpersonal world which would, in turn, increase the vulnerability for depression. Empirical findings in research with adults (Mikulincer & Shaver, 2007) as well as children (e.g., Muris, Meesters, van Melick, & Zwambag, 2001) indeed support a relationship between both attachment anxiety and attachment avoidance and depressive symptoms, although associations with avoidant attachment are typically less pronounced.

Germane to the topic of this study, attachment theory assumes substantial continuity of attachment patterns across generations and abundant research has addressed this notion. Bakermans-Kranenburg and van Ijzendoorn (1994-1995) found, in a meta-analysis of studies using the Adult Attachment Interview (George, Kaplan, & Main, 1985) and the Strange Situation Procedure (Ainsworth et al., 1978), that attachment is congruent across generations. The intergenerational similarity of attachment was not only found in infants (e.g. Fonagy, Steele, & Steele, 1991) but also in young school children (Hesse, 1999), and adolescents (Besser & Priel, 2005). **Besser and Priel (2005), for example, found evidence for the intergenerational resemblance of the positive-self dimension of attachment (which reflects low scores on attachment anxiety) and of the positive-other dimension of attachment (which reflects low scores on attachment avoidance).** In the current study, we specifically examine whether mothers' attachment to their current partner is related to their children's attachment to mother. This focus on the mother-partner relationship is based on the idea that mothers' partner probably represents one of the most salient and active attachment figures in their life. As such, attachment dynamics in the relationship with the partner may be more proximally related to mothers' current personality and depressive symptoms compared to for instance mothers' retrospective representations of their own mother.

Given the evidence for associations between insecure attachment dimensions and depressive symptoms, and for intergenerational congruence of attachment, the current study will investigate the role of both attachment anxiety and attachment avoidance in the association between mothers' and children's depressive symptoms. Specifically, it is expected that the direct association between mothers' and children's depressive symptoms will decrease or become non-significant when taking into account associations between (a) mothers' and children's attachment representations and (b) associations between attachment representations and depressive symptoms within each generation. Confirming parts of this reasoning, Besser and Priel (2005) found that insecure attachment in mothers was related to maternal depressive symptoms which, in turn, were associated with insecure attachment and subsequent depressive symptoms in the child. However, Besser and Priel (2005) did not find evidence for a direct association between mothers' and children's depressive symptoms, such that the hypothesis of mediation proposed here could not be fully tested.

Associations between Depressogenic Personality Dimensions and Attachment Dimensions

At the conceptual level, the distinction between anxious and avoidant attachment shows a specific convergence with the distinction between sociotropy and autonomy, respectively (Blatt & Maroudas, 1992). Anxious attachment is characterized by a high demand for attention stemming from a hope that love will be provided, coupled with anxiety about loss of gratification (Bowlby, 1980). This pattern of anxiety and strong interpersonal concerns about important others parallels Beck's description of a sociotropic attitude. In contrast, avoidant attachment develops in childhood in response to loss or an inadequate or unsympathetic (critical, rejecting) care of a parent. As a defense against feeling unloved, the child strives to be self-reliant and later withdraws from others. Avoidantly attached individuals show little appreciation for, or investment in, interpersonal relatedness. The strong focus on self-reliance inherent in avoidant attachment is reminiscent of autonomy as described by Beck (Blatt & Maroudas, 1992).

Consistent with this conceptual analysis, research with adults shows that anxious attachment is primarily associated with sociotropy (dependency) and to a lesser extent with autonomy (self-criticism), whereas avoidant attachment is specifically related to autonomy (self-criticism) (e.g., Sibley, 2007). Previous research with a younger population found that adolescents who reported low quality of relationships with their parents were also vulnerable to self-criticism (Leadbeater, Kuperminc, Blatt, & Hertzog, 1999). However, the unique associations between particular attachment dimensions and both depressogenic personality dimensions have not been investigated with early adolescents, which is unfortunate because both personality and the attachment system is fully developing during this period.

Thus, we expect to find specific relationships between anxious attachment and sociotropy, and between avoidant attachment and autonomy within the two generations studied. Across generations, we expect that the intergenerational similarity of attachment anxiety would play a specific role in the intergenerational similarity of sociotropy, whereas the intergenerational similarity of attachment avoidance would play a specific role in the intergenerational similarity of autonomy.

We are aware of only one study simultaneously addressing the intergenerational similarity of depressogenic personality and the intergenerational similarity of attachment dimensions. The study of Besser and Priel (2005), that was already described above, obtained evidence for the intergenerational congruence of both vulnerability factors (i.e., personality and attachment). Within generations, it was found that self-criticism mediated the association between attachment insecurity and depressive symptoms. Specifically, the low positive self dimension of attachment (which reflects high scores on attachment anxiety) was associated with self-criticism and dependency. Further, self-criticism (but not dependency) and the low positive self-attachment dimension were found to be related to depression in each generation. Between generations, evidence was found for significant intergenerational similarity in self-criticism and attachment but not for intergenerational similarity of depressive symptoms. These findings are in line with the notion that the transmission of depressogenic personality and attachment is more robust and fundamental than the transmission of depressive symptoms. The latter

intergenerational similarity may represent a mere symptom of the more fundamental similarity in depressogenic personality and attachment representations. Unfortunately, because Besser and Priel did not find significant intergenerational similarity of depressive symptoms to begin with, they could not test the central hypothesis of our study that the intergenerational similarity of depressive symptoms is accounted for by intergenerational similarity of depressogenic personality and attachment. Further, our study contributes in two other ways to the Besser and Priel (2005) study. First, the present research starts from Beck's cognitive-behavioral perspective (1983) as a conceptual starting point (i.e., sociotropy and autonomy) and, as such, is the first to examine the intergenerational similarity of sociotropy and autonomy. Second, we will use a different questionnaire for attachment than Besser and Priel, that is, the Experiences in Close Relationships Scale-Revised (ECR-R). The ECR-R is considered a more reliable assessment of anxious and avoidant attachment than the single item Relationship Questionnaire, which was used in Besser and Priel (2005).

The present study

The aim of the current research is to address three main hypotheses related to the conceptual model guiding this research (see Figure 1). First, we hypothesized that there would be a significant, yet modest, intergenerational similarity of depressive symptoms (Hypothesis 1). Second, we anticipated significant intergenerational similarity of depressogenic personality factors (i.e., sociotropy and autonomy) and of attachment dimensions (i.e., anxiety and avoidance). We also expected that the intergenerational similarity of these underlying interpersonal and personality features would account at least partially for the intergenerational similarity of depressive symptoms (Hypothesis 2).

Third, we hypothesized that, within and across generations, depressogenic personality factors and attachment dimensions would be related in theoretically anticipated and specific ways (Hypothesis 3, see Figure 1). Note that, in mothers, depressogenic personality is modeled as an antecedent to attachment, whereas, in children, attachment is modeled as an antecedent to depressogenic personality. Although the developmental order of these constructs cannot be determined using a

correlational study, there are conceptual reasons to adopt this developmental order in this study. In line with the work of Sibley and colleagues, we reasoned that, in mothers, sociotropy and autonomy represent individual differences in mothers' global personality functioning, which in turn affect mothers' specific attachment style to a particular attachment figure, that is, their current partner (Sibley, 2007; Sibley & Overall, 2008b). In children, however, we measured attachment to mother and it seemed more appropriate to model maternal attachment representations as developmental antecedents of depressogenic personality rather than as consequences thereof. Developmental accounts of the origin of depressogenic personality in children indeed point to the role of attachment representations as developmental precursors of dependency/sociotropy and self-criticism/autonomy (e.g., Blatt & Homann, 1992).

In examining these hypotheses, children's age and gender are investigated as possible moderating variables. Connell and Goodman (2002), for instance, found that maternal depression was more strongly related to emotional problems in younger children (≤ 12 years of age) than in older children (≥ 13 years of age). This finding was consistent with their prediction that mothers exert more influence when children are younger because there are fewer competing influences in the lives of young children compared to those of older children (e.g., spouse, peers, teachers). Regarding gender, Connell and Goodman (2002) proposed that psychopathology in parents may be more closely associated with internalizing problems in children of the same gender.

Method

Participants and Procedure

The participants in this study were 303 early adolescents (141 male, 160 female, 2 missing), and their mothers. The early adolescents had a mean age of 12 years, with a range between 8 and 14 years. The mothers had a mean age of 44, with a range between 34 and 54 years. Regarding educational level, 19.3% of the mothers attained a master diploma, 46.3% has a bachelor diploma, and 34.3% only completed secondary school. Concerning family status, 258 participants (85.4%) were from

intact families whereas the remaining participants were from divorced families or from families where one of the parents had deceased.

The data for this study were gathered in the context of a course on developmental psychology. Undergraduate students participating in practical sessions were asked to contact one family with an early adolescent child. All families were visited at home by the undergraduate students to complete a set of self-report questionnaires. After reading and signing a participant consent form, the children as well as the mothers completed the scales on depressive symptoms, depressogenic personality and attachment. Participants were ensured that participation was voluntary, that they could end their participation to the study at any time, and that their data would be treated confidentially.

Measurements

Depressive symptoms. Mothers were administered the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), a widely employed and well-validated self-report measurement for assessing the severity of depressive symptomatology in adults. Respondents are asked to rate each of 21 depressive symptoms on a scale ranging from 0 (*not present*) to 3 (*severe*). The participants have to rate the items in terms of how they have been feeling during the past two weeks, including the date of questionnaire completion. The BDI-II is designed to provide a single overall score that can range from 0 to 63. Beck et al. (1996) reported excellent internal consistency ($\alpha = .93$ among undergraduate students) and good convergent validity ($r = .71$ with the Hamilton Psychiatric Rating Scale for Depression). More recent studies using the BDI-II reported Cronbach alpha's ranging between .76 and .89 (e.g., Muris, Meesters, van Melick, & Zwambag, 2001). In this research, the alpha coefficient was .86.

Children were administered the Children's Depression Inventory (CDI; Kovacs, 1981; 1985; Dutch translation by Timbremont, Braet, & Roelofs, 2008), which is an adaptation of the Beck Depression Inventory for use with children 7-17 years of age. This self-report scale includes 27 items dealing with sadness, self-blame, loss of appetite, insomnia, interpersonal relationships, and school

adjustment. Each of the items consists of three sentences that describe a symptom of depression in varying degrees of severity. Each item set is then scored from 0 (*symptom is absent*) to 2 (*symptom is present most or all the time*), resulting in a range of total scores from 0 to 54. Acceptable levels of internal consistency, validity, and test-retest reliability have been established (Kovacs, 1985; Saylor, Finch, Spirito, & Bennett, 1984). In the current study, Cronbach's alpha was .78.

Depressogenic personality. The Revised Personal Style Inventory (PSI-II; Robins et al., 1994) was used to assess the constructs of sociotropy and autonomy. The PSI-II consists of 48 items (24 items for each scale) which are rated on a scale from 1 (totally disagree) to 6 (totally agree). The Sociotropy scale is composed of three subscales: excessive concerns about what others think, dependency, and pleasing others. An example of a Sociotropy item is: 'I often put other people's needs before my own.' The three autonomous constructs are excessive perfectionism, need for control, and defensive separation from others. An example of an Autonomy item is 'It is hard for me to take instructions from people who have authority over me.' Both PSI scales have strong internal consistency and test-retest reliability (e.g., Robins et al., 1994). Research also supports the convergent and discriminant validity of the PSI (e.g., Alden & Bieling, 1996). In the current study, Chronbach's alpha was .88 and .86 for maternal sociotropy and autonomy respectively.

For the early adolescent participants, a slightly modified version of the PSI-II was developed and validated in an independent pilot study with 462 children (150 male, 298 female, 14 missing) with a mean age of 13. To make the questionnaire more suitable and relevant for children, item wording was simplified, double negatives were removed, and the content was slightly altered. Factor analysis on the six subscales of the 48-item PSI-II resulted in a two-factor structure similar to that obtained in previous research with older adolescents and adults (i.e., sociotropy and autonomy). As in research with older adolescents and adults, we also found positive associations between both PSI-II factors and depressive symptoms. Alpha coefficients in this sample were .81 and .77 for children's sociotropy and autonomy, respectively.

Attachment dimensions. The Experiences in Close Relationships Scale-Revised (ECR-R; Fraley, Waller & Brennan, 2000; Dutch translation by Buysse & Dewitte, 2004) was used to measure maternal anxious and avoidant attachment. More specifically, the mothers were asked to rate the 36 attachment statements about their current partner. The anxiety scale (18 items) taps into feelings of fear of abandonment and strong desires for interpersonal merger (e.g., I worry about being abandoned by my partner). The avoidance scale (18 items) taps into discomfort with closeness, dependence, and intimate self-disclosure (e.g., I prefer not to show my partner how I feel deep down). Items are rated on a 7-point scale ranging from 'not at all' to 'very much'. In adult populations, the reliability and validity of the anxious and avoidant attachment scale are well documented. Previous research with the ECR-R found high reliabilities for both subscales (e.g., Sibley & Liu, 2004) and supported the stability and test-retest reliability of the ECR-R scores (e.g., Sibley, Fischer, & Liu, 2005). In this study, Cronbach's alpha was .92 and .91 for attachment anxiety and avoidance, respectively.

The early adolescent participants completed a version of the ECR adjusted for middle childhood and early adolescence, that is, the Experiences in Close Relationships Scale-Revised Child version (ECR-RC; Brenning, Soenens, Braet, & Bosmans, submitted). A committee of researchers familiar with research in middle childhood and early adolescence slightly simplified the items so as to better reflect the developmental and reading level of early adolescent participants. The children were asked to rate the 18 anxiety and 18 avoidance statements about their mother. Both subscales have strong internal consistency and construct and predictive validity (Brenning et al., submitted). Cronbach's alpha of the ECR-RC in the current study was .85 and .90 for anxious and avoidant attachment, respectively.

Results

Descriptive Statistics and Preliminary Analyses

Table 1 presents the means and standard deviations of the study variables. The mothers in the current sample had a mean score on depressive symptoms of 6.40 (range 0-37). Considering the cutoff values of Beck and colleagues, 80.3% of the mothers have a low score on the BDI-II (score from 0 to 9),

14.2% report mild depressive symptoms (score from 10 to 18), 3.9% report moderate depressive symptoms (score from 19 to 25), and 1.6% report severe scores (score of 26 and above) (Beck, Rush, Shaw, & Emery, 1979). The early adolescents in the present sample had a mean score of 8.70 (range 0-30) on depressive symptoms. Elevated levels of depressive symptoms were reported by 8.7% of the children (score of 16 and above) (Timbremont et al., 2008).

Table 1 also presents the correlations among the study variables within and between generations. Within each generation, depressive symptoms were positively related to both depressogenic personality factors (i.e., sociotropy and autonomy) as well as to both attachment dimensions (i.e. anxiety and avoidance). Further, within each generation, significant positive correlations were found between both depressogenic personality dimensions and anxious attachment. Avoidant attachment showed a positive relationship with autonomy in both generations. Across generations significant positive associations were found between the ratings of mothers' and children's depressive symptoms, depressogenic personality factors, and attachment dimensions.

Preliminary analyses were conducted to examine differences in the study variables in terms of children's age, gender, and family status. First, correlations were computed between age and all study variables. The results showed a significant correlation between children's age and avoidant attachment ($r = .27, p < .001$), with older children reporting higher attachment avoidance, and between children's age and maternal depressive symptoms, with mothers of older children reporting less depressive symptoms ($r = -.13, p < .05$). To examine differences in terms of gender and family status two separate multivariate analyses of variance were conducted, with each of the study variables as dependent variables. A significant overall effect of gender was found on the study variables (Wilks' Lambda $F(10, 275) = 5.84, p < .001$). More specifically, gender had an effect on children's sociotropy ($F(1, 284) = 35.34, p < .001$), with girls reporting higher scores on sociotropy than boys. Although family status had an effect on mother's anxious attachment score ($F(3, 283) = 3.53, p < .05$), with lower scores on anxious attachment for mothers who live in an intact family compared to mothers who are divorced or where the

partner has deceased, no significant overall effects of family status on the study variables were found (Wilks' Lambda $F(30, 804.92) = 1.24, p > .05$). We controlled for the effects of each of these background variables in all primary analyses.

Primary Analyses: Structural Equation Modeling

To estimate structural associations between the study variables while controlling for error variance, Structural Equation Modeling (SEM) with latent variables was conducted using LISREL 8.7 (Jöreskog & Sörbom, 1996). The primary analyses followed the two-step procedure recommended by Anderson and Gerbing (1988). First, a confirmatory factor analysis (CFA) was used to test the quality of the measurement model of the study constructs. Second, a series of structural models was tested. As suggested by Hu and Bentler (1999), we used the comparative fit index (CFI) and the root mean square error of approximation (RMSEA) as goodness of fit indices. Combined cutoff values of 0.95 for CFI and 0.06 for RMSEA indicate good fit. Finally, we used the corrected scaled chi-square difference test to compare nested models. Data screening indicated partial non-normality of a number of indicators and, therefore, we used the asymptotic covariance matrix as input and inspected the Satorra-Bentler scaled chi-square (SBS- χ^2 ; Satorra-Bentler, 1994).

Measurement model. To model the 10 latent variables in the measurement model (maternal as well as children's depressive symptoms, sociotropy, autonomy, attachment anxiety, and attachment avoidance), three parcels were created for each construct, each consisting of a set of randomly selected items. No cross-loadings were allowed. The measurement model (SBS- $\chi^2(360) = 472.25$; CFI = .99; RMSEA = .03) had 30 indicators with significant ($p < .001$) and moderate to strong loadings on the 10 latent factors, ranging from .66 to .95 (mean $\lambda = .83$).

Hypothesis 1: Intergenerational similarity of depressive symptoms. In a first structural model, we examined the intergenerational similarity between mothers' and children's depressive symptoms. Estimation of Model 1 (SBS- $\chi^2(20) = 63.18$; CFI = .95; RMSEA = .09) showed that, controlling for

children's age, gender and family status, maternal depressive symptoms are significantly related to children's depressive symptoms ($\beta = .17, p < .05$).

Hypothesis 2a: Intergenerational similarity of depressogenic personality. In a second structural model (Model 2a), we examined whether the direct association between mothers' and children's depressive symptoms would be accounted for by the mother-child similarity in sociotropy and autonomy. To test this, Model 1 was extended by inserting mothers' and children's sociotropy and autonomy. Within generations, paths were estimated from sociotropy and autonomy to depressive symptoms. Between generations, paths were estimated from mothers' sociotropy and autonomy to children's sociotropy and autonomy, respectively. To control for the variance shared by the two depressogenic personality factors, for both mothers and children the error variances of both latent variables were allowed to correlate. Estimation of the resulting model (SBS- $\chi^2(163) = 296.76$; CFI = .97; RMSEA = .05), depicted in Figure 2, showed that the direct association between maternal depressive symptoms and adolescents' depressive symptoms becomes non-significant when taking into account the mother-child similarity in sociotropy and autonomy. In both mothers and children, sociotropy and autonomy predicted independent variance in depressive symptoms. Maternal sociotropy and autonomy were significantly related to child sociotropy and autonomy, respectively. Adding cross-paths from maternal sociotropy to adolescents' autonomy ($\beta = .15, p > .05$) and from maternal autonomy to adolescents' sociotropy ($\beta = .12, p > .05$) did not significantly improve the fit of the model ($\Delta\text{SBS-}\chi^2(2) = 4.99, p > 0.05$). This latter finding supports the specificity of the intergenerational similarity of sociotropy and autonomy.

Hypothesis 2b: Intergenerational similarity of attachment dimensions. In a third structural model (Model 2b), we examined whether the direct relationship between mothers' and children's depressive symptoms would be accounted for by the mother-child similarity in attachment anxiety and avoidance. Model 1 was extended by inserting mothers' and children's attachment anxiety and avoidance. Within generations, paths were estimated from anxiety and avoidance to depressive symptoms. Between

generations, paths were estimated from mothers' anxiety and avoidance to children's anxiety and avoidance, respectively. To control for the variance shared by the attachment dimensions, for both mothers and children the error variances of both latent variables were allowed to correlate. Estimation of the resulting model ($\text{SBS}-\chi^2(163) = 327.67$; CFI = .97; RMSEA = .06), depicted in Figure 3, showed that the direct path from maternal depressive symptoms to adolescents' depressive symptoms became non-significant when taking into account the mother-child similarity in attachment anxiety and avoidance. Whereas, in children, both anxiety and avoidance were independently related to depressive symptoms, in mothers only anxiety was significantly related to depressive symptoms. The paths from mothers' anxiety and avoidance to adolescents' attachment anxiety and avoidance, respectively, were significant. Adding cross-paths from maternal anxiety to child avoidance ($\beta = .00$, $p > .05$) and from maternal avoidance to child anxiety ($\beta = 0.08$, $p > .05$) did not significantly improve the fit of the model ($\Delta\text{SBS}-\chi^2(2) = 0.37$, $p > 0.05$).

Hypothesis 3: Testing the integrated model. Model 3 is the integrated conceptual model where both depressogenic personality dimensions and attachment dimensions are entered simultaneously. Estimation of this model ($\text{SBS}-\chi^2(443) = 625.84$; CFI = .98; RMSEA = .04), depicted in Figure 4, showed that the direct effect of maternal depressive symptoms on adolescents' depressive symptoms becomes non-significant when taking the mother-child similarity in both depressogenic personality factors and attachment dimensions into account. Most of the hypothesized paths were significant. Within the two generations, sociotropy was related significantly to attachment anxiety and autonomy was significantly related to attachment avoidance. Adding cross-paths between sociotropy and avoidance ($\beta = .02$, $p > .05$ within the mother generation; $\beta = -.11$, $p > .05$ within the child generation) did not significantly improve the fit of the model ($\Delta\text{SBS}-\chi^2(2) = 0.09$, $p > 0.05$). However, adding cross-paths between autonomy and anxiety ($\beta = .32$, $p < .001$ within the mother generation; $\beta = .28$, $p < .01$ within the child generation) did significantly improve the fit of the model ($\Delta\text{SBS}-\chi^2(2) = 26.23$, $p < 0.001$). Therefore, the relationship between autonomy and anxiety in both the mother and child generation were

retained in the final model. Within the mother generation, sociotropy and attachment anxiety (but not autonomy and attachment avoidance) were independently related to maternal depressive symptoms. Within the child generation, autonomy and attachment anxiety (but not sociotropy and attachment avoidance) were independent predictors of depressive symptoms. Between generations, the intergenerational similarity of both attachment anxiety and avoidance remained significant. Whereas the intergenerational similarity of sociotropy remained significant after taking into account the intergenerational similarity of anxiety, the intergenerational similarity of autonomy was reduced to non-significance after taking into account the intergenerational similarity of avoidance.

Moderation by child age and gender. To examine whether children's age and gender play a role as moderator variables in the final structural model, multigroup analyses were conducted. First, we examined whether children's age moderated the final structural model comparing younger (8-12 years) to older children (12-14 years). Because the median age was 12 years, we used a cut-off of 12 years to split the sample into two age groups. In addition, these groups correspond roughly with the distinction between pre- and early adolescence. A multigroup analysis was conducted comparing a constrained model (in which the modeled pathways were set to be invariant across different age categories) with an unconstrained model (in which these parameters were freely estimated across different age categories). No significant differences were found between the model for younger children and the model for older adolescents ($\Delta\text{SBS}-\chi^2(19) = 16.25, p > 0.05$). Second, we examined whether children's gender moderated the final structural model. When comparing the mother-daughter and mother-son model, no significant differences were found ($\Delta\text{SBS}-\chi^2(19) = 14.60, p > 0.05$).

Discussion

Overall, the results of the study support our hypothesis that the observed similarity in depressive symptoms is a function of deeper, more fundamental personality-related and interpersonal processes. More specifically, the research confirms that the intergenerational similarity of personality and attachment dimensions play a role in the intergenerational congruence of depressive symptoms,

and that the intergenerational associations of personality and attachment dimensions are linked to each other in theoretically anticipated and specific ways.

Our first research question was about the intergenerational similarity of depressive symptoms. We found a small but significant association of .17 between mothers' and children's depressive symptoms. The size of this association is remarkably close to the weighted mean effect size obtained in the Connell and Goodman (2002) meta-analysis. According to Connell and Goodman (2002) this kind of effect size is typical for non-clinical samples and is somewhat lower compared to effect sizes obtained in clinical samples. Given the low to modest similarity of depressive symptoms it was deemed useful to examine whether this similarity is accounted for by the intergenerational similarity of two theoretically relevant psychosocial risk factors, that is, depressogenic personality and attachment. Studies based on Blatt's theoretical propositions on personality already provided evidence for the intergenerational transmission of both dependency and self-criticism (e.g., Besser & Priel, 2005). However, to the best of our knowledge, the current study is the first to examine patterns of intergenerational similarity in Beck's (1983) constructs of sociotropy and autonomy. The present findings support the intergenerational similarity hypothesis and also contribute to the limited body of research on the relationship between depressogenic personality factors and depressive symptoms during middle childhood and early adolescence (e.g., Little & Garber, 2000). Both sociotropy and autonomy showed a significant association with depressive symptoms within each generation. Moreover, as predicted, the association between mothers' and children's sociotropy and autonomy appeared to explain the direct association between mothers' and children's depressive symptoms.

Similar findings were obtained when examining attachment dimensions as mediating variables in the intergenerational congruence of depressive symptoms. As expected, anxious attachment is consistently associated with an elevated prevalence of depressive symptoms within each generation and shows intergenerational similarity between generations. Although avoidant attachment shows intergenerational congruence as well, less consistent results are found for a relationship with depressive

symptoms. A significant association was found between avoidant attachment and depressive symptoms in the child generation, whereas the relationship between avoidant attachment and maternal depressive symptoms turned out non-significant.

The comparatively stronger association between anxiety and depressive symptoms than between avoidance and depressive symptoms (specifically in mothers) is in line with previous research. In the meta-analysis by Mikulincer and Shaver (2007), only half of the studies concerning adult attachment showed positive associations between attachment avoidance and depressive symptoms. This is consistent with the suggestion of Besser, Priel, and Wiznitzer (2002) that only attachment styles involving a negative self-model increase the risk for depression. Possibly, there are interindividual differences between people scoring high on avoidant attachment, with some people avoiding close relationships due to fear of rejection from others (negative self-model), and with other people avoiding close relationships due to lack of desire to interact with others (positive self-model) (Bartholomew & Horowitz, 1991). Given that a negative self-model has been found to be a major predictor of depressive symptoms, only the former group of avoidant people may show a strong vulnerability to depressive symptoms.

Further, the current study investigated the relationship between the two underlying psychological processes, that is, depressogenic personality and attachment. In line with previous research (e.g., Sibley, 2007), anxious and avoidant attachment were specifically linked to sociotropy and autonomy, respectively. At the same time, we found a significant relationship between anxiety and autonomy. Possibly, some autonomous individuals want to achieve goals to be accepted by others and to avoid being appreciated less in case of failure (see also Besser and Priel, 2005). As a consequence, people who score high on autonomous personality would also be prone to attachment anxiety. This relationship between autonomy and attachment anxiety is consistent with previous research (e.g., Sibley, 2007).

The current study also simultaneously investigated the role of depressogenic personality and attachment in the intergenerational similarity of depressive symptoms. To the best of our knowledge, only one former study investigated this research question (Besser & Priel, 2005). The current's study results are in line with this study, in that, the intergenerational congruence of sociotropy was uniquely associated with the intergenerational similarity of attachment anxiety. The hypothesis that the intergenerational similarity of depressive symptoms can be accounted for by the intergenerational similarity of depressogenic personality and attachment could, however, not be investigated in the study of Besser and Priel (2005). The results of the current study show that both depressogenic personality and attachment dimensions mediate the similarity in depressive symptoms across generations. Finally, no moderating effects of children's age nor gender were found. Although Connell and Goodman (2002) pointed to the importance of examining whether children's age and gender qualify the effects of predictors of child depression, our findings were remarkably consistent across age and gender, thus testifying to the stability of the proposed model.

In sum, the current study found support for the role of depressogenic personality and attachment dimensions as underlying factors in the intergenerational similarity of depressive symptoms. Maternal sociotropic and autonomous personality characteristics, which supposedly result from insecure attachment with grandmother, seem to translate into anxious and avoidant attachment representations of the relationship with their partner, respectively. In turn, mothers' attachment representations towards partner are similar to children's attachment representations to their mother. Further, children's attachment anxiety and avoidance show a relationship with children's sociotropic and autonomous personality characteristics, respectively. Both depressogenic personality dimensions are in turn associated with an increased prevalence of depressive symptoms in children.

Limitations

Although the current research yielded some unique findings, some limitations must be mentioned. First, an important question for further research is whether fathers might also contribute to

the intergenerational similarity of depressive symptoms. According to Connell and Goodman (2002), it is no longer justifiable to exclude fathers from research programs on the basis of the belief that their mental health problems are less closely related to children's problems than are mothers'. Although children's internalizing problems were more closely related to the presence of psychopathology in mothers than in fathers in the meta-analysis of Connell and Goodman (2002), the magnitude of the differences were small.

Second, caution is needed in generalizing the present study's results to diverse populations. Future research is needed to explore this issue in ethnically or racially diverse populations and in clinical samples. It is likely that effects obtained in this study may be even more pronounced in samples with higher levels of depressive symptoms or stronger variability in depressive symptoms (Gottlib, Lewinsohn, & Seeley, 1995).

Third, the study was based on mothers' and children's self-reports but did not include data from other important sources, including observational measures and teacher reports. It remains unclear whether the strategies and regulatory processes endorsed by mothers and adolescents on self-report questionnaires adequately reflect their actual behaviors. A problem is that self-report measures only have access to conscious thoughts and ideas. This may increase the likelihood of self-presentational biases (Garber & Kaminski, 2000). On the other hand, the use of self-report instruments for depression has an important advantage. Self-report gives a view of the subjective experience of the child, which is very important with internalizing problems (Garber & Kaminski, 2000). Other methods (e.g. narratives) may capture aspects of attachment (e.g., unconscious feelings) that self-report scales do not measure but that should be explored as well (Yunger, Corby, Perry, 2005).

Finally, the study is based on cross-sectional data which limits the researcher's ability to assess the direction of effects. Studies of outcomes in later adolescence and early adulthood are necessary to examine the long-term implications of the processes examined in our model. Further longitudinal

research could address the notion that depressogenic personality and attachment dimensions play a significant role in the intergenerational transmission of depressive symptoms.

References

- Abela, J. R. Z., Zinck, S., Kryger, S., Zilber, I., & Hankin, B. L. (2009). Contagious depression: Negative attachment cognitions as a moderator of the temporal association between parental depression and child depression. *Journal of Clinical Child and Adolescent psychology*, 38, 16-26.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: a psychological study of the strange situation*. Hillsdale, NJ: Erlbaum Associates.
- Alden, L. E., & Bieling, P. J. (1996). Interpersonal convergence of personality constructs in dynamic and cognitive models of depression. *Journal of Research in Personality*, 30, 60-75.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411-423.
- Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (1994-1995). Intergenerationele overdracht van gehechtheid: een meta-analyse naar de relatie tussen de gehechtheidsbiografie van de ouders en de gehechtheidsrelatie met hun kind. In J.D. Bosch, H.A. Bosma, D.N. Oudshoorn, J.Rispens, & A. Vyt (red.), *Jaarboek ontwikkelingspsychologie, orthopedagogiek en kinderpsychiatrie 1* (pp. 240-258). Houten: Bohn Stafleu Van Loghum.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226-244.
- Beardslee, W. R., Versage, E. M., & Gladstone, T. R. G. (1998). Children of affectively ill parents: A review of the past ten years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 1134-1141.
- Beck, A. T. (1983). Cognitive treatment of depression: New perspectives. In P. J. Clayton, & J. E. Barrett (Eds.), *Treatment of depression: Old controversies and new approaches* (pp. 265-290). New York: Raven Press.
- Beck, A. T. (1987). Cognitive models of depression. *Journal of Cognitive Psychotherapy: An International Quarterly*, 1, 5-37.

- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Manual for the Beck Depression Inventory-II. San Antonio, TX: Psychological Corporation.
- Beck, R., Robbins, M., Taylor, C., & Baker, L. (2001). An examination of sociotropy and excessive reassurance seeking in the prediction of depression. *Journal of Psychopathology and Behavioral Assessment*, 23, 101-105.
- Beck, R., Taylor, C., & Robbins, M. (2003). Missing home: sociotropy and autonomy and their relationship to psychological distress and homesickness in college freshmen. *Anxiety, stress, and coping*, 16, 155-166.
- Besser, A., & Priel, B. (2005). The apple does not fall far from the tree: Attachment styles and personality vulnerabilities to depression in three generations of women. *Personality and Social Psychology Bulletin*, 32, 1052-1073.
- Besser, A., Priel, B., & Wiznitzer, A. (2002). Childbearing depressive symptomatology in high-risk pregnancies: The roles of working models and perceived spouse support. *Personal Relationships*, 9, 395-413.
- Bieling, P. J., Beck, A. T., & Brown, G. K. (2000). The Sociotropy-Autonomy Scale: Structure and implications. *Cognitive Therapy and Research*, 24, 763-780.
- Blatt, S. J. (1974). Levels of object representations in anaclitic and introjective depression. *The Psychoanalytic Study of the Child*, 24, 107-157.
- Blatt, S. J., & Homann, E. (1992). Parent-child interaction in the etiology of dependent and self-critical depression. *Clinical Psychology Review*, 12, 47-91.
- Blatt, S. J., & Maroudas, C. (1992). Convergences among psychoanalytic and cognitive-behavioral theories of depression. *Psychoanalytic Psychology*, 9, 157-190.
- Bowlby, J. (1973). Attachment and loss: Vol. 2. Separation: anxiety and anger. New York: Basic Books.
- Bowlby, J. (1979). The making and breaking of affectional bonds. London: Tavistock Publications.

- Bowlby, J. (1980). *Attachment and loss: Vol 3. Sadness and depression*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Brenning, K., Soenens, B., Braet, C., & Bosmans, G. (submitted). Attachment anxiety and avoidance in middle childhood and early adolescence: The development of a child version of the Experiences in Close Relationships Scale-Revised. *Journal of Social and Personal Relationships*.
- Buysse, A., & Dewitte, M. (2004). Nederlandse vertaling van de Experiences in Close Relationships Scale-revised. *Unpublished manuscript*, Ghent University.
- Connell, A., & Goodman, S. (2002). The association between psychopathology in fathers versus mother and children's internalizing and externalizing behaviour problems: A meta-analysis. *Psychological Bulletin*, 128, 746-773.
- Diamond, G. M., Diamond, G. S., & Hogue, A. (2007). Attachment-based family therapy: Adherence and differentiation. *Journal of Marital and Family Therapy*, 33, 177-191.
- Fonagy, P., Steele, H., & Steele M. (1991). Maternal representation of attachment during pregnancy predict the organisation of infant-mother attachment at one year of age. *Child Development*, 62, 891-905.
- Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4, 132-154.
- Fraley, R. C., & Spieker, S. J. (2003). Are infants attachment patterns continuously or categorically distributed? A taxometric analysis of Strange Situation behavior. *Developmental Psychology*, 39, 387-404.
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350-365.
- Garber, J., & Kaminski, K. M. (2000). Laboratory and performance-based measures of depression in children and adolescents. *Journal of Clinical Child Psychology*, 29, 509-525.

- George, C., Kaplan, N., & Main, M. (1985). *The Adult Attachment Interview*. Unpublished protocol, University of California, Berkeley CA.
- Goodman, S., & Gotlib, I. (1999). Risk for psychopathology in the children of depressed mothers; A developmental model for understanding mechanisms of transmission. *Psychological Review*, 106, 458-490.
- Gotlib, I. H., Lewinsohn, P. M., Seeley, J. R. (1995). Symptoms versus a diagnosis of depression: Differences in psychosocial functioning. *Journal of Consulting and Clinical Psychology*, 63, 90-100.
- Hammen, C., Shih, J. H., & Brennan, P. A. (2004). 'Intergenerational transmission of depression: test of an interpersonal stress model in a community sample'. *Journal of Consulting and Clinical Psychology*, 72, 511-522.
- Hesse, E. (1999). The adult attachment interview: Historical and current perspectives. In J. Cassidy, & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 395-433). New York: Guilford Press.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Chicago: Scientific Software International.
- Kovacs, M. (1983). *The Children's Depression Inventory: A self-rated depression scale for school-aged youngsters*. Unpublished manuscript, University of Pittsburgh, Pittsburgh, PA.
- Kovacs, M. (1985). The Children's Depression Inventory (CDI). *Psychopharmacology Bulletin*, 21, 995-998.
- Kuperminc, G. P., Blatt, S. J., & Leadbeater, B. J. (1997). Relatedness, self-definition, and early adolescent adjustment. *Cognitive Therapy and Research*, 21, 301-320.
- Leadbeater, B. J., Kuperminc, G. P., Blatt, S., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology*, 35, 1268-1282.

- Little, S. A., & Garber, J. (2000). Interpersonal and achievement orientations and specific stressors predicting depressive and aggressive symptoms in children. *Cognitive Therapy and Research*, 24, 651-670.
- Luyten, P., Sabbe, B., Blatt, S. J., Meganck, S., Jansen, B., De Grave, C., et al. (2007). Dependency and self-criticism: relationship with major depressive disorder, severity of depression, and clinical presentation. *Depression and Anxiety*, 24, 586-596.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Moore, R. G., & Blackburn, I. M. (1996). The stability of sociotropy and autonomy in depressed patients undergoing treatment. *Cognitive Therapy and Research*, 20, 69-80.
- Muris, P., Meesters, C., van Melick, M., & Zwambag, I. (2001). Self-reported attachment style, attachment quality and symptoms of anxiety and depression in young adolescents. *Personality and Individual Differences*, 30, 809-818.
- Robins, C. J., Ladd, J. S., Welkowitz, J., Blaney, P. H., Diaz, R., & Kutcher, G. (1994). The Personal Style Inventory: Preliminary new measures of sociotropy and autonomy. *Journal of Psychopathology and Behavioral Assessment*, 16, 227-300.
- Satorra, A., & Bentler, P. M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. von Eye & C. C. Clogg (Eds.), *Latent variable analysis: Applications in developmental research* (pp. 399-419). Thousand Oaks CA: Sage.
- Saylor, C. F., Finch, A. J., Spirito, A., & Bennett, B. (1984). The Children's Depression Inventory: A systematic evaluation of psychometric properties. *Journal of Consulting and Clinical Psychology*, 52, 955-967.
- Sibley, C. G. (2007). The association between working models of attachment and personality: Toward an integrative framework operationalizing global relational models. *Journal of Research in Personality*, 41, 90-109.

- Sibley, C. G., Fischer, R., & Liu, J. H. (2005). Reliability and validity of the Revised Experiences in Close Relationships (ECR-R) self-report measure of adult romantic attachment. *Personality and Social Psychology Bulletin*, 31, 1524-1536.
- Sibley, C. G., & Liu, J. H. (2004). Short-term stability and factor structure of the revised close relationships (ECR-R) measure of adult attachment. *Personality and Individual Differences*, 36, 969-975.
- Sibley, C. G., & Overall, N. C. (2008). The boundaries between attachment and personality: Localized versus generalized effects in daily social interaction. *Journal of Research in Personality*, 42, 1394-1407.
- Sibley, C. G., & Overall, N. C. (2008b). Modeling the hierarchical structure of attachment representations: A test of domain differentiation. *Personality and Individual Differences*, 44, 238-249.
- Soenens, B., Elliot, A. J., Goossens, L., Vansteenkiste, M., Luyten, P., & Duriez, B. (2005). The intergenerational transmission of perfectionism: Parents' psychological control as an intervening variable. *Journal of Family Psychology*, 19, 358-366.
- Timbremont, B., Braet, C., & Roelofs, J. (2008). *Children's Depression Inventory, Nederlandstalige versie (Children's Depression Inventory, Dutch version)*. Pearson Assessment and Information.
- Yu, J. J., & Gamble, W. C. (2009). Adolescent relations with their mothers, siblings, and peers: An exploration of the roles of maternal and adolescent self-criticism. *Journal of Clinical Child and Adolescent Psychology*, 38, 672-683.
- Yunger, J. L., Corby, B. C., Perry, D. G. (2005). Dimensions of attachment in middle childhood. In K. A. Kerns & R. A. Richardson, *Attachment in middle childhood* (pp. 46-70). New York: The Guilford Press.
- Zettle, R. D., Haflich, J. L., & Reynolds, R. A. (1992). Responsivity to cognitive therapy as a function of treatment format and client personality dimensions. *Journal of Clinical Psychology*, 48, 787-797.

Table 1

Means, Standard Deviations, and Correlations among Study Variables

		M	SD	1	2	3	4	5	6	7	8	9
Mdepression	1	6.40	6.20	-								
Msociotropy	2	3.65	0.63	.39***	-							
Mautonomy	3	3.25	0.58	.27***	.41***	-						
Manxiety	4	2.47	0.98	.62***	.35***	.41***	-					
Mavoidance	5	2.76	0.96	.38***	.14*	.31***	.60***	-				
Cdepression	6	8.70	5.28	.13*	.16**	.15**	.22***	.17**	-			
Csociotropy	7	3.84	0.56	.10	.13*	.11*	.18**	.17**	.28***	-		
Cautonomy	8	3.40	0.52	.15*	.16**	.20***	.21***	.21***	.43***	.39***	-	
C anxiety	9	2.04	0.76	.12*	.11	.26***	.20***	.15**	.40***	.24***	.36***	-
Cavoidance	10	2.80	1.00	.07	.05	.20***	.14*	.16**	.38***	.05	.31***	.45***

Note. M = Mother; C = Child. * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Figure Captions

Figure 1: Conceptual model. *Note:* M = Mother; C = Child.

Figure 2: Structural model of the role played by depressogenic personality in the intergenerational similarity of depressive symptoms (Model 2a).

Coefficients shown are standardized path coefficients, * $p < .05$. ** $p < .01$. *** $p < .001$. *Note:* M = Mother; C = Child; R^2 = Explained variance.

Figure 3: Structural model of the role played by attachment in the intergenerational similarity of depressive symptoms (Model 2b). Coefficients

shown are standardized path coefficients, * $p < .05$. ** $p < .01$. *** $p < .001$. *Note:* M = Mother; C = Child; R^2 = Explained variance.

Figure 4: Hypothesized model. Final structural model of the role played by attachment in the intergenerational similarity of depressogenic

personality and in turn depressive symptoms (Model 3). Coefficients shown are standardized path coefficients, * $p < .05$. ** $p < .01$. *** $p < .001$. *Note:* M =

Mother; C = Child; R^2 = Explained variance.







